

CLARKE, J. 2019. Porosity and protection. Posted on Fieldsights, blog of the Society for Cultural Anthropology. Editors' forum: theorizing the contemporary [online], 25 April 2019. Available from: https://culanth.org/fieldsights/porosity-and-protection?token=ht6B9TmcW_soSwAqh7lhi-4rwF37mec

Porosity and protection.

CLARKE, J.

2019



Editors' Forum Theorizing the Contemporary

Porosity and Protection

FROM THE SERIES: [Embodied Ecologies](#)

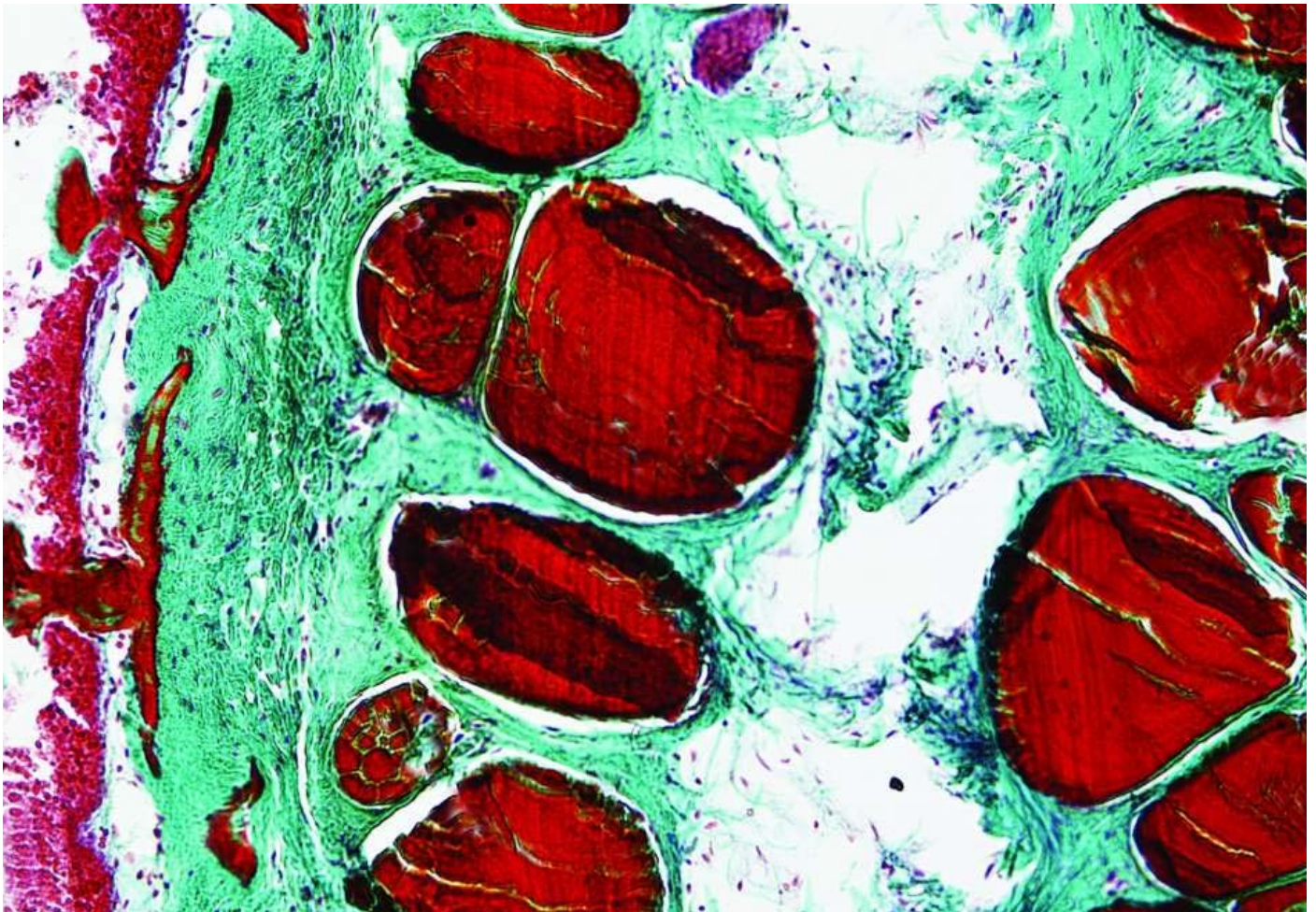


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By [Jennifer Clarke](#)

April 25, 2019

Publication Information

Cite As: Clarke, Jennifer. 2019. "Porosity and Protection." Theorizing the Contemporary, *Fieldsights*, April 25. https://culanth.org/fieldsights/porosity-and-protection?token=ht6B9TmcW_soSwAqh7lhi-4rwF37mec

I first saw the traces of destruction in the spring of 2014, when Yasuko, an art therapist, and I were driving toward a coastal village north of the “difficult to return zone,” near the Fukushima Daiichi nuclear power plant. Known in Japan as 3.11, the so-called triple disaster (the strongest earthquake ever recorded, an ensuing tsunami, and a nuclear “accident” that, together, left 18,000 people dead) devastated the Tohoku region of northeast Japan. Inland, the landscape of rice fields and electrical lines felt familiar, but along the coast the landscape was scraped away, a flat expanse only occasionally disrupted by remnants. Yasuko handed me a white tissue filled with ginger salt brought by her uncle from the mountains. Salt, used to ward off evil spirits, has a long history in purification rituals in Shinto, Japan’s traditional religion, as well as Japanese Buddhism and other religions. As Yasuko and I drove toward the stricken zone, traversing a series of barriers real and imagined with little more than salt to protect us, I reflected on the porosity of bodies and substances—the risks of radiation crossing the boundaries of our skin, entering our bodies through the air we breathed and the food we consumed. Nancy Tuana (2008) conceptualizes the permeability of bodies in terms of *viscous porosity*. Drawing on Merleau-Ponty’s phenomenology, she suggests that the porosity of boundaries between bodily flesh and the flesh of the world forms the “hinge” at which which we are both *of* and *in* the world.

In June 2011, it was discovered that the Fukushima reactors had released several radioactive isotopes that were emitting levels of radiation greater than those recorded following the bombing of Hiroshima in 1945. Cesium-137 has a half-life of thirty years; it is very soluble, spreading easily through bodies, especially if ingested. Strontium-90, a related isotope, is so similar to calcium that it literally moves through bones. In time, nuclear experts in Japan announced thresholds for acceptable, nonhazardous levels of exposure, but by then people had already developed ideas about *houshasen kanri*, or radiation protection. Earlier that week, when I had visited Fukushima, the director of a local kindergarten told me that he believed consuming sugar was more of a risk to children’s long-term health than radiation poisoning. But he also said that it was only now, three years after 3.11, that children were allowed to touch the trees or play in the streets without curfew.

During that trip we stayed at a traditional *ryokan* (guesthouse), where I met a group of filmmakers making a documentary about Fukushima. They would enter the exclusion zone on bicycles to avoid police detection. One night after dinner, one of them, a

Japanese-American, insisted on giving me a bottle filled with white powder, with a handwritten label that read *borax*. He instructed me to make a paste and “paint my belly,” as well as the soles of my feet, before going close to the zone. This was especially important for me, he said; as a young woman, I was risking my fertility. Borax, a commercial cleaning product common in the United States, is a derivative of the mineral boron. I was fascinated to learn, later, that boron is produced by a naturally occurring nuclear reaction, cosmic ray spallation, a process accidentally discovered in the 1970s. It is the only mineral capable of accepting and ionizing radiation without changing the nucleus of living cells. Like other minerals such as Bentonite clay (formed from the weathering of volcanic ash), boron is often painted onto the skin to create a buffer from radiation exposure. Ironically, I later learned that boron may also inhibit fertility.

Other such home remedies are used to “clean” nuclear materials. Famously, research scientists used baking soda to remove uranium from around Los Alamos, the laboratory in New Mexico where the atomic bomb was created. Another everyday material, used for centuries in Japan for cooking or to purify drinking water, is *binchotan*, a form of activated charcoal made from the urame oak. Heated in ceramic kilns to incredibly high temperatures, it develops a microporous structure that actually absorbs radiation; particles adhere to its surface, so that radiation is weakened as it passes through. Ranging from the talismanic to the scientific, such efforts at protection may be uncertain, but they afford a sense of agency.

After the nuclear disaster, citizen radiation measuring organizations (CRMOs) measured concentrations of radioactive materials using Geiger counters. Despite such efforts, the accuracy of measurements, and by extension the risks of radiation, remained in doubt. Available forms of activism are limited in the masculinized spaces of disaster response and nuclear science, where women have been criticized as exhibiting paranoia and hypochondria, labeled as hysterics with *hoshano* or radiation brain (Kimura 2016). Experimentation with forms of radiation protection, as well as scientific practice, have afforded mothers a way to negotiate potentially debilitating anxiety when wider social discourse dismisses their contamination concerns as irrational. As Nicolas Sternsdorff-Cisterna (2015, 459) argues, “gender is a key component of scientific citizenship” in post-Fukushima Japan, with mothers “using their image of caregivers to challenge the state.”

Radiation still leaches into groundwater from contaminated soil around the exclusion

zones, arguably a result of the nuclear industry's avoidance of past responsibility and future accountability. Radiation moves through bodies, ineluctably in and of the world, radically porous, neither prior to nor independent of the practices that inform responses to it. Bodies remain sites of struggle, and yet activist histories show that we can become our own witnesses (see Alaimo 2010). With our bodies on the line, we can never be disengaged observers at a distance from ecological crisis; we exist within it, creating as well as crossing boundaries.

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